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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/730,660	12/08/2003	Peter D. Karabinis	9301-2IP	4855

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EXAMINER	
LEE, JOHN J	

ART UNIT	PAPER NUMBER
2618	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/730,660	KARABINIS, PETER D.	
	Examiner	Art Unit	
	JOHN J. LEE	2618	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *19 March 2009*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-54* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) *1-28 and 43-50* is/are allowed.

6)☒ Claim(s) *29,30,32,36,37,39 and 51-54* is/are rejected.

7)☒ Claim(s) *31,33-35,38 and 40-42* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *3/17/2009*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments/Amendment

1. Applicant's arguments received on March 19, 2009 have been carefully considered but they are not persuasive because the teaching of all the cited reference reads on all the rejected and amended claims as set forth in the pervious rejection. Therefore, the finality of this Office Action is deemed proper.

Contrary to the assertions at pages 15 - 19 of the Arguments, claims 1, 8, 12, and 16 are not patentable.

During examination, the USPTO must give claims their broadest reasonable interpretation.

In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, Regulinski et al. (US 2005/0260948) reference teaches communication using radio frequency band between base stations and terrestrial mobile terminal via satellite communication network, and Emmons, Jr. et al. (US 6,570,858) teaches allocating radio frequency in satellite-based communication system with terrestrial mobile repeater via mobile terminals. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention

was made to modify the Regulinski system as taught by Emmons provide the motivation to enhance satellite transmission and reception performance for using uplink/downlink same radio frequency in satellite communication system.

Re claims 29 and 36: Applicant argues that the combination of teaching of Regulinski and Emmons do not teach the claimed invention "transmitting wireless communications from an ancillary terrestrial network to radiotelephones and receiving wireless communications from the radiotelephones at the ancillary terrestrial network over a downlink satellite radiotelephone frequency in a time-division duplex mode". However, The Examiner respectfully disagrees with Applicant's assertion that the combination of teaching of Regulinski and Emmons do not teach the claimed invention. Contrary to Applicant's assertion, the Examiner is of the opinion that Regulinski teaches an ancillary terrestrial node (119) (ancillary terrestrial network) transmits wireless communication channels to mobile terminals (see Fig. 11), and mobile terminals (radiotelephones) has a dual mode for recognizing satellite channels and terrestrial network channels (see Fig. 11) and wirelessly transmitting to uplink radio frequency (receiving wireless communications from the radiotelephones) at the terrestrial node ((119) in Fig. 11) (ancillary terrestrial network), also TDMA duplex mode in satellite mobile terminal (see Fig. 11 teaches over a downlink satellite radiotelephone frequency in a time-division duplex mode) (see pages 10, paragraphs 185, where teaches TDMA satellite system and the terrestrial system is TDMA) (also see Fig. 11, pages 3, paragraphs 50, 58, and pages 8, paragraphs 148 – 149), regarding the claimed limitation. More specifically, for communication via the satellite network, each mobile terminal is in

communication with satellite via full duplex channel comprises a downlink channel and uplink channel, for example a TDMA time slot on a particular frequency allocated on initiation of a communication, and an terrestrial base node configures to transmit downlink the radio frequency to mobile terminal and receives uplink the radio frequency from mobile terminal in a TDMA duplex mode. Furthermore, Emmons teaches an ancillary terrestrial network (30) is configured to transmit wireless communications to (see Fig. 1), and receive wireless communications from (see Fig. 1), the radiotelephones (32) over the downlink satellite radiotelephone frequency (38) in a time-division duplex mode, more specifically, Fig. 1 teaches the ancillary terrestrial network transmits and receive wireless communication to/from the radio mobile terminal over the radio frequency same as downlink satellite radio frequency using time-division duplex mode (see Fig. 1, 5, column 2, lines 12 – 51, and column 3, lines 10 – column 5, lines 42). It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the Regulinski's system as taught by Emmons, provide the motivation to enhance satellite transmission and reception performance for using time division duplex mode between mobile terminal and base station via satellite.

Applicant's attention is directed to the rejection below for the reasons as to why this limitation is not patentable.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. **Claims 29, 30, 32, 36, 37, 39, and 51-54** are rejected under 35 U.S.C. 103(a) as being unpatentable over Regulinski et al. (US 2005/0260948) in view of Emmons, Jr. et al. (US 6,570,858).

Regarding **claim 29**, Regulinski teaches a radiotelephone communication (Fig. 1). Regulinski teaches that transmitting wireless communications from an ancillary terrestrial network (terrestrial node (119) transmits wireless communication channels to mobile terminals in Fig. 11) to radiotelephones (Fig. 11 teaches mobile terminal has a dual mode for recognizing satellite channels and terrestrial network channels) and receiving wireless communications from the radiotelephones (wirelessly transmitting to uplink radio frequency) at the ancillary terrestrial network (terrestrial node (119) in Fig. 11) over a downlink satellite radiotelephone frequency in a time-division duplex mode (TDMA duplex mode in satellite mobile terminal in Fig. 11) (see pages 10, paragraphs 185, where teaches TDMA satellite system and the terrestrial system is TDMA) (Fig. 11, pages 3, paragraphs 50, 58, and pages 8, paragraphs 148 - 149, where teaches for communication via the satellite network, each mobile terminal is in communication with satellite via full duplex channel comprises a downlink channel and uplink channel, for example a TDMA time slot on a particular frequency allocated on initiation of a communication, and an terrestrial base node configures to transmit downlink the radio frequency to mobile terminal and receives uplink the radio frequency from mobile terminal in a TDMA duplex mode).

Regulinski does not specifically disclose the limitation "from radiotelephones at the ancillary terrestrial network over a downlink satellite radiotelephone frequency in a time-division duplex mode". However, Emmons supportly teaches the limitation "from radiotelephones (32) at the ancillary terrestrial network (30) over a downlink satellite radiotelephone frequency ((38) see Fig. 1) in a time-division duplex mode" (see Fig. 1, 5, column 2, lines 12 – 51, and column 3, lines 10 – column 5, lines 42). It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the Regulinski's system as taught by Emmons, provide the motivation to enhance satellite transmission and reception performance for using time division duplex mode between mobile terminal and base station via satellite.

Regarding **claim 30**, Regulinski and Emmons teach all the limitation as discussed in claim 29. Furthermore, Regulinski teaches that transmitting wireless communications from the ancillary terrestrial network (terrestrial node (119) transmits wireless communication channels to mobile terminals in Fig. 11) to the radiotelephones (112 in Fig. 11) and receiving wireless communications from the radiotelephones at the ancillary terrestrial network (Fig. 11) over an uplink satellite radiotelephone frequency in a time-division duplex mode (TDMA duplex mode in satellite mobile terminal in Fig. 11) (see pages 10, paragraphs 185, where teaches TDMA/FDMA satellite system and CDMA terrestrial system, also satellite system could be CDMA and the terrestrial system is TDMA/FDMA) (Fig. 11, pages 3, paragraphs 50, 58, and pages 8, paragraphs 148 - 149, where teaches for communication via the satellite network, each mobile terminal is in communication with satellite via full duplex channel comprises a downlink channel and

uplink channel, for example a TDMA time slot on a particular frequency allocated on initiation of a call, and an terrestrial base node configures to transmit downlink the radio frequency to mobile terminal and receives uplink the radio frequency from mobile terminal in a TDMA duplex mode).

Regarding **claim 32**, Regulinski and Emmons teach all the limitation as discussed in claim 29. Furthermore, Regulinski teaches that the downlink satellite radiotelephone frequency comprises a downlink satellite radiotelephone frequency band (downlink satellite radio frequency band in Fig. 9) and wherein the transmitting comprises transmitting wireless communications from the ancillary terrestrial network (119 in Fig. 11) to the radiotelephones (terrestrial downlink and uplink frequency band) and receiving wireless communications from the radiotelephones at the ancillary terrestrial network (terrestrial downlink and uplink frequency band) over the downlink satellite radiotelephone frequency band (downlink satellite radio frequency band Fig. 9, 10) in a time-division duplex mode (Fig. 9, 10, pages 3, paragraphs 50 and pages 8, paragraphs 143, where teaches for communication via the satellite network, each mobile terminal is in communication with satellite via full duplex channel comprises a downlink channel and uplink channel, for example a TDMA time slot on a particular frequency band allocated on initiation of a communication, and an terrestrial base node configures to transmit downlink the radio frequency to mobile terminal and receives uplink the radio frequency from mobile terminal in a TDMA duplex mode).

Regarding **claim 36**, Regulinski and Emmons teach all the limitation as discussed in claim 29. Furthermore, Regulinski teaches that receiving wireless communications

from an ancillary terrestrial network (terrestrial node (119) transmits wireless communication channels to mobile terminals in Fig. 11) at radiotelephones (Fig. 11 teaches mobile terminal has a dual mode for recognizing satellite channels and terrestrial network channels) and transmitting wireless communications from the radiotelephones (wirelessly transmitting to uplink radio frequency) to the ancillary terrestrial network (terrestrial node (119) in Fig. 11) over a downlink satellite radiotelephone frequency in a time-division duplex mode (TDMA duplex mode in satellite mobile terminal in Fig. 11) (see pages 10, paragraphs 185, where teaches TDMA/FDMA satellite system and CDMA terrestrial system, also satellite system could be CDMA and the terrestrial system is TDMA/FDMA) (Fig. 11, pages 3, paragraphs 50, 58, and pages 8, paragraphs 148 - 149, where teaches for communication via the satellite network, each mobile terminal is in communication with satellite via full duplex channel comprises a downlink channel and uplink channel, for example a TDMA time slot on a particular frequency allocated on initiation of a communication, and an terrestrial base node configures to transmit downlink the radio frequency to mobile terminal and receives uplink the radio frequency from mobile terminal in a TDMA duplex mode).

Regarding **claim 37**, Regulinski and Emmons teach all the limitation as discussed in claim 29. Furthermore, Regulinski teaches that receiving wireless communications from the ancillary terrestrial network (terrestrial node (119) transmits wireless communication channels to mobile terminals in Fig. 11) at the radiotelephones (112 in Fig. 11) and transmitting wireless communications from the radiotelephones to the ancillary terrestrial network (119 in Fig. 11) over an uplink satellite radiotelephone

frequency in a time-division duplex mode (TDMA duplex mode in satellite mobile terminal in Fig. 11) (see pages 10, paragraphs 185, where teaches TDMA/FDMA satellite system and CDMA terrestrial system, also satellite system could be CDMA and the terrestrial system is TDMA/FDMA) (Fig. 11, pages 3, paragraphs 50, 58, and pages 8, paragraphs 148 - 149, where teaches for communication via the satellite network, each mobile terminal is in communication with satellite via full duplex channel comprises a downlink channel and uplink channel, for example a TDMA time slot on a particular frequency allocated on initiation of a call, and an terrestrial base node configures to transmit downlink the radio frequency to mobile terminal and receives uplink the radio frequency from mobile terminal in a TDMA duplex mode).

Regarding **claim 39**, Regulinski and Emmons teach all the limitation as discussed in claim 29. Furthermore, Regulinski teaches that the downlink satellite radiotelephone frequency comprises a downlink satellite radiotelephone frequency band (downlink satellite radio frequency band in Fig. 9) and wherein the receiving comprises receiving wireless communications from the ancillary terrestrial network (119 in Fig. 11) at the radiotelephone (terrestrial downlink and uplink frequency band), and transmitting wireless communications from the radiotelephones to the ancillary terrestrial network (terrestrial downlink and uplink frequency band) over the downlink satellite radiotelephone frequency band (downlink satellite radio frequency band Fig. 9, 10) in a time-division duplex mode(Fig. 9, 10, pages 3, paragraphs 50 and pages 8, paragraphs 143, where teaches for communication via the satellite network, each mobile terminal is in communication with satellite via full duplex channel comprises a downlink channel

and uplink channel, for example a TDMA time slot on a particular frequency band allocated on initiation of a communication, and an terrestrial base node configures to transmit downlink the radio frequency to mobile terminal and receives uplink the radio frequency from mobile terminal in a TDMA duplex mode).

Regarding **claim 51 and 53**, Regulinski and Emmons teach all the limitation as discussed in claim 29. Furthermore, Regulinski teaches that the ancillary terrestrial network is further configured to obtain the wireless communications that are transmitted to, and to provide the wireless communications that are received from, the radiotelephones over a wired terrestrial link (Fig. 1 and pages 2, paragraphs 44 – pages 3, paragraphs 51).

Regarding **claim 52 and 54**, Regulinski and Emmons teach all the limitation as discussed in claim 29. Furthermore, Regulinski teaches that the ancillary terrestrial network is not configured to directly communicate wirelessly with the space-based component (Fig. 1, 11 and pages 2, paragraphs 44 – pages 3, paragraphs 51).

Allowable Subject Matter

4. Claims 1-28 and 43-50 are allowed.

Claims 1-28 and 43-50 are allowable over the prior art of record because a search does not detect the combined claimed elements as set forth in the claims 1-28 and 43-50.

As recited in independent claims, none of the prior art of record teaches or fairly suggests that a space-based component that is configured to receive wireless communications from radiotelephones in a satellite footprint over an uplink satellite

radiotelephone frequency and to transmit wireless communications to the radiotelephones over a downlink satellite radiotelephone frequency, and an ancillary terrestrial network that is configured to transmit wireless communications to, and receive wireless communications from, the radiotelephones over the downlink satellite radiotelephone frequency in a time-division duplex mode, and together with combination of other element as set forth in the claims 1-28 and 43-50. Therefore, claims 1-28 and 43-50are allowable over the prior art of records.

5. Claims 31, 33-35, 38, and 40-42 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The prior art of record fails to disclose the limitation "the time-division duplex mode includes a frame including a plurality of slots, wherein a first number of the slots is used to transmit wireless communications to the radiotelephones over the downlink satellite radiotelephone frequency and wherein a second number of the slots is used to receive wireless communications from the radiotelephones over the downlink satellite radiotelephone frequency, wherein the first number is greater than the second number" as specified in the claims.

6. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Conclusion

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks
Washington, D.C. 20231
Or P.O. Box 1450
Alexandria VA 22313

or faxed (571) 273-8300, (for formal communications intended for entry)

Or: (703) 308-6606 (for informal or draft communications, please label "PROPOSED" or "DRAFT").

Hand-delivered responses should be brought to USPTO Headquarters, Alexandria, VA.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to **John J. Lee** whose telephone number is **(571) 272-7880**. He can normally be reached Monday-Thursday and alternate Fridays from 8:30am-5:00

pm. If attempts to reach the examiner are unsuccessful, the examiner's supervisor, **Nay Maung**, can be reached on **(571) 272-7882**. Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (703) 305-4700.

J.L.
June 6, 2009

John J Lee

/JOHN J LEE/
Primary Examiner, Art Unit 2618